Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously presented): A fusion protein, which comprises an antigen, a transmembrane region, and a cytoplasmic region of a chain of an MHC molecule.

Claim 2 (previously presented): The fusion protein of claim 1, wherein the fusion protein is free from a binding domain of an MHC molecule.

Claim 3 (previously presented): The fusion protein of claim 1, wherein the transmembrane region is derived from an MHC molecule.

Claim 4 (previously presented): The fusion protein of claim 1, wherein the transmembrane region and the cytoplasmic region are derived from the same MHC molecule and together comprise a sequence in which the transmembrane region is connected to the cytoplasmic region.

Claim 5 (previously presented): The fusion protein of claim 1, wherein the fusion protein additionally comprises a leader sequence.

Claim 6 (previously presented): The fusion protein of claim 5, wherein the leader sequence is derived from an MHC molecule.

Claim 7 (previously presented): The fusion protein of claim, wherein the fusion protein has the following arrangement of segments: N terminus - leader sequence/antigen/ transmembrane

region/cytoplasmic region - C terminus, and the individual segments optionally are separated from one another by linker sequences.

Claim 8 (previously presented): The fusion protein of claim 1, wherein the antigen portion thereof comprises a plurality of antigens.

Claim 9 (previously presented): A nucleic acid which codes for a fusion protein of claim 1.

Claim 10 (original). A host cell which comprises a nucleic acid as claimed in claim 9.

Claim 11 (previously presented): A pharmaceutical composition which comprises one or more fusion proteins of claim 1 in a pharmaceutically acceptable carrier.

Claims 12-18 (cancelled).

Claim 19 (previously presented): A pharmaceutical composition which comprises at least one nucleic acid of claim 9 in a pharmaceutically acceptable carrier.

Claim 20 (previously presented): A pharmaceutical composition which comprises at least one host cell of claim 10 in a pharmaceutically acceptable carrier.

Claim 21 (previously presented): A method of inducing the formation of MHC/antigen peptide complexes in a cell, the method comprising contacting the cell with at least one fusion protein of claim 1.

Claim 22 (previously presented): A method for inducing the formation of MHC/antigen peptide complexes in a cell, the method comprising contacting the cell with at least one nucleic acid of claim 9.

Claim 23 (previously presented): A method for inducing the formation of MHC/antigen peptide complexes in a cell, the method comprising contacting the cell with at least one host cell of claim 10.

Claim 24 (previously presented): A method of inducing presentation of MHC/antigen peptide complexes on the surface of antigen presenting cells, the method comprising contacting antigen presenting cells with at least one fusion protein of claim 1.

Claim 25 (previously presented): A method of activating T cells toward a specific antigen comprising contacting the T cells with antigen presenting cells that have been previously treated with at least one fusion protein of claim 1, wherein the antigen portion of the fusion protein comprises the specific antigen.

Claim 26 (previously presented): A method of stimulating or activating T cells against a specific antigen, the method comprising contacting T cells with at least one fusion protein of claim 1, wherein the antigen portion of the fusion protein comprises the specific antigen.

Claim 27 (previously presented): A method of inducing an immune response to a specific antigen in a living organism, the method comprising administering to the living organism at least one fusion protein of claim 1, wherein the antigen portion of the fusion protein comprises the specific antigen.

Claim 28 (previously presented): A method of treating or immunizing a living organism suffering from or at risk of developing a target disease, the method comprising administering at least one fusion protein of claim 1 to the living organism, wherein the antigen portion of the fusion protein comprises an antigen associated with the target disease.

Claim 29 (previously presented): The method of claim 28 wherein the target disease is hepatitis A, hepatitis B, hepatitis C, HIV, mycobacteria, malaria, SARS, herpes, influenza, polio, chlamydia, and a mycobacterial infection.

Claim 30 (previously presented): The method of claim 28 wherein the target disease is a tumor.

Claim 31 (previously presented): The fusion protein of claim 1 wherein the antigen is a tumor antigen.

Claim 32 (previously presented): The fusion protein of claim 31 wherein the tumor antigen is selected from the group consisting of carcinoembryonic antigen, α1-fetoprotein, isoferritin, fetal sulfoglycoprotein, α2-H-ferroprotein, and γ-fetoprotein.

Claim 33 (previously presented): The fusion protein of claim 1 wherein the antigen is a viral antigen.

Claim 34 (previously presented): The fusion protein of claim 33 wherein the viral antigen is selected from the group consisting of a viral ribonucleoprotein and a viral envelope protein.

Claim 35 (previously presented): The fusion protein of claim 4 wherein the transmembrane region and the cytoplasmic region together comprise an amino acid residue sequence selected from the group consisting of SEQ ID NO: 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, and 41.

Claim 36 (previously presented): The fusion protein of claim 1 wherein the cytoplasmic region comprises an amino acid residue sequence selected from the group consisting of SEQ ID NO: 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, and 42.

Claim 37 (previously presented): The fusion protein of claim 1 wherein the fusion protein has the amino acid residue sequence of SEQ ID NO: 12 or SEQ ID NO: 14.

Claim 38 (previously presented): The fusion protein of claim 1 wherein the antigen is selected from the group consisting of ART-4, BAGE, ss catenin/m, Bcr-abL CAMEL, CAP-1,

CASP-8, CDC27/m, CDK4/m, CEA, claudin-12, c-MYC, CT, Cyp-B, DAM, ELF2M, ETV6-AML1, G250, GAGE, GnT-V, Gap100, HAGE, HER-2/neu, HPV-E7, HPV-E6, HAST-2, hTERT, hTRT, LAGE, LDLR/FUT, MAGE-A, MAGE-A1, MAGE-A2, MAGE-A3, MAGE-A4, MAGE-A5, MAGE-A6, MAGE-A7, MAGE-A8, MAGE-A9, MAGE-A10, MAGE-A11, MAGE-A12, MAGE-B, MAGE-C, MART-1/melan-A, MC1R, myosin/m, MUC1, MUM-1, MUM-2, MUM-3, NA88-A, NF1, NY-ESO-1, NY-BR-1, p190 minor bcr-abL Pml/RARa, PRAME, proteinase-3, PSA, PSM, RAGE, RU1 or RU2, SAGE, SART-1 or SART-3, SCGB3A2, SCP1, SCP2, SCP3, SSX, survivin, TEL/AML1, TPI/m, TRP-1, TRP-2, TRP-2/INT2, TPTE, and WT.

Claim 39 (previously presented): The nucleic acid of claim 9 wherein the nucleic acid encodes an amino acid residue sequence selected from the group consisting of SEQ ID NO: 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, and 41.

Claim 40 (previously presented): The nucleic acid of claim 9 wherein the nucleic acid encodes an amino acid residue sequence selected from the group consisting of SEQ ID NO: 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, and 42.

Claim 41 (previously presented): The nucleic acid of claim 9 wherein the nucleic acid comprises the nucleotide sequence of SEQ ID NO: 11 or SEQ ID NO: 13.

Claim 42 (new): The fusion protein of claim 1 wherein the fusion protein has the amino acid residue sequence of SEQ ID NO: 12.